



how to have

year 'round comfort

and economy

in your home

WITH AN EAGLE-PICHER

Certified INSULATION JOB

home comfort

north

west

east

south . . .



Over this world's broad surface, man provides shelter for his family.

From the bare Eskimo igloo to the luxurious Long Island mansion . . . from the rude grass jungle hut to the modest mid-western bungalow, man not only achieves his basic need for shelter but constantly strives toward home improvements.

We, here in the good old U.S.A., have gone far beyond basic need; we require that our homes be attractive . . . we want the betterments that add zest to our home activities . . . improvements that make for convenience and comfort in our living.

And high on today's list of the creations of science and industry for home improvement, is the miracle of mineral wool insulation which is bringing an entirely new concept of comfort, economy and safeguarded health to American home owners.

For more than a Century—since 1843—EAGLE-PICHER has been a leader in industry. From its broad achievements in the development and perfection of insulation, the fundamental “whys and wherefores” of insulation are presented to you in this booklet. It is well worth your reading so that you may learn of the benefits and advantages of an EAGLE-PICHER Certified INSULATION JOB.



the "what and why" of insulation...

a very "short course"—This story must, of necessity, be but a brief, super-digest of the many books, technical treatises and research by engineers and scientists over a long period of years.

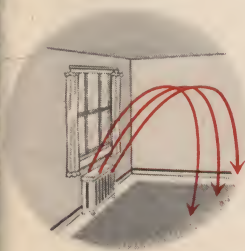
Reduced to its essence, the story is that of "the flow of heat and cold and the function of insulation to control it." It boils down into readily simplified facts and figures that are translatable into terms of direct, day-by-day benefits to you as a home owner.

this is what happens to heat and cold...

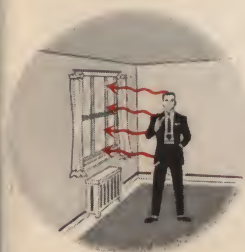
START WITH THESE 3 BASIC LAWS OF HEAT TRANSFER...



1. **CONDUCTION**... is the transfer of heat from one part of a solid to another part of the solid. (Heat applied to one end of an iron rod is conducted to the other end. Structural building materials are solids.)



2. **CONVECTION**... is the transfer of heat by the movement of air, gas, or liquid. (Warmth released in a room circulates toward a cold surface or location.)



3. **RADIATION**... is the transfer of heat from a warm surface to a colder surface without contact and without movement of air, gas, or liquid. (Warm, human bodies and other warm objects radiate heat to colder objects. Sun rays also transfer heat by radiation.)

MAKE THIS "COMFORT ZONE" TEST IN YOUR OWN HOME...



During cold (near 0°) weather, place an ordinary thermometer near the center of an uninsulated room for 4 or 5 minutes to determine the temperature at that point.



Now... move the thermometer to about 18 inches from an outside wall, and note the drop in temperature. Then, move it *close* to the wall. You'll probably find a further reduction of several degrees in temperature.

Thus... the "comfort zone" of an uninsulated house, and all of its exposed rooms, is reduced considerably in *comfortably usable area*. If chairs are near the walls in your living room, you are sitting in the "discomfort zone... out where the chill begins!"

remember: heat always flows to a colder object



so... here's an attractive house

but... it's uncomfortable

*cold in winter
hot in summer*

why?

Because there is no barrier set up to control and stop the natural transfer of heat through the brick, or stone, or stucco, or wood . . . the hollow sidewalls. Thus, (1) in winter the *inside warmth* flows to, and is dissipated on, the cold wall and attic surfaces, causing chill, discomfort, and health hazards. (2) in summer *outside heat* bakes through walls and attics and converts the entire house into an "oven," with stifling days . . . sleepless nights.

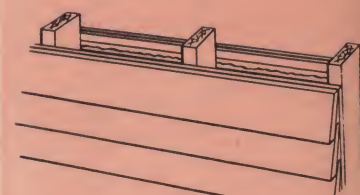
There is nothing in the structural materials of an uninsulated house to retard the transfer of heat and cold.

structural materials perform a structural function . . . little more

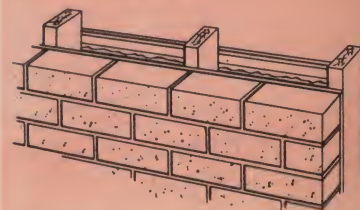
Any of several materials and types of construction are satisfactory; many combinations of materials are excellent, so any selection is largely a matter of the home owner's personal preference with respect to cost, structural solidity, durability, maintenance and appearance. Most common types are: Standard frame wall, brick veneer wall, stucco on frame wall.

Any or all of these types of construction provide a shelter—yet, it is only a partial and relatively inefficient protection from the elements . . . because of our "trio of old friends," conduction, convection and radiation.

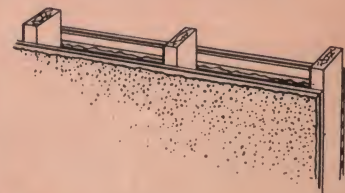
- conduction: which permits escape of expensive furnace heat and penetration of summer heat through the solid structural members.
- convection: which permits inside warmth to circulate toward cold walls where it becomes chilled.
- radiation: which, without contact or movement, transfers warmth from warm bodies (your own included) to colder objects and surfaces.



standard frame wall of inside plaster on lath, studs, sheathing, building paper, and outside clapboard or shingles. (Approximate thickness: 6½")



brick veneer wall of inside plaster on lath, studs, sheathing, and single thickness of brick. (Approximate thickness: 8")

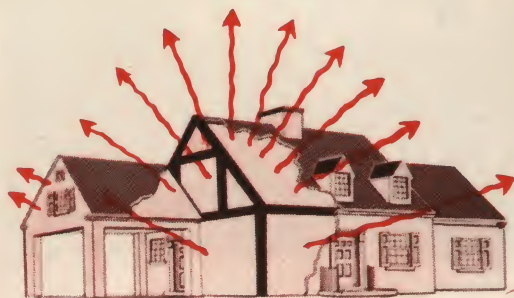


stucco on frame wall of inside plaster on lath, studs, sheathing, wire lath, 1" of stucco. (Approximate thickness: 6")

here's what happens in a house that is not insulated

in winter

Outside cold works through walls and roofs and draws inside warmth toward the cold surfaces. Heating system must work "overtime" to counteract this flow. Movement of heat from your body accelerates and you become chilly; temperature variation causes drafts; drafts seem to cause common colds and still more serious winter ailments.

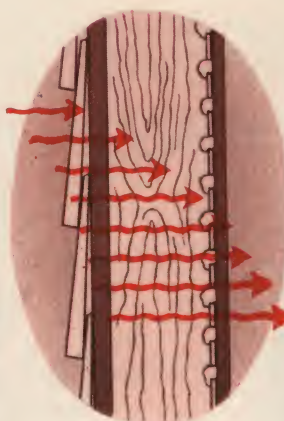


*in an uninsulated house
furnace warmth leaks out*

Note how, in the above quite-typical house, inside warmth leaks out through the large areas of roof, ceiling and walls that are exposed to the outside winter cold.

in summer

Hot rays of the sun beat down and bake through hollow sidewalls, and the roof where heat builds up to 140° and more. Having thus gained entrance, heat flows to any cooler part of the house until *all* rooms become correspondingly hot. Your body, seeking relief by perspiration, cannot offset the heat radiated from hot surfaces. The result is muggy, uncomfortable days . . . sleepless nights.



*in an uninsulated house
summer heat penetrates*

Rays of the summer sun are direct and penetrating. Air in hollow sidewalls and attic becomes heated to high intensity until prolonged, cooler weather can correct the condition.

that is what happens every winter and every summer in every uninsulated house

what to do about it?

There is a simple, one-word answer: "INSULATE." When you insulate your house, you provide the missing protection that structural materials cannot offer. Nature and science have combined to create a material that serves this protective need with high

insulating efficiency . . . *mineral wool insulation*. Century-old Eagle-Picher has perfected the processing of this unique insulating material and its engineered installation which, together, have set entirely new standards of home comfort with the

EAGLE-PICHER *Certified* INSULATION JOB

an EAGLE-PICHER
Certified
INSULATION JOB...

means thoroughly insulated

The first step is a detailed survey of your house, including its location, exposures, construction material, heating system. Plans are made to assure that areas which need insulation will receive it, and that adequate ventilation is provided. Based on this unique thermal survey, the EAGLE-PICHER Certified INSULATION JOB results in the greatest possible efficiency and meets the most rigid engineering standards.

only an EAGLE-PICHER Certified INSULATION JOB can earn this certification...



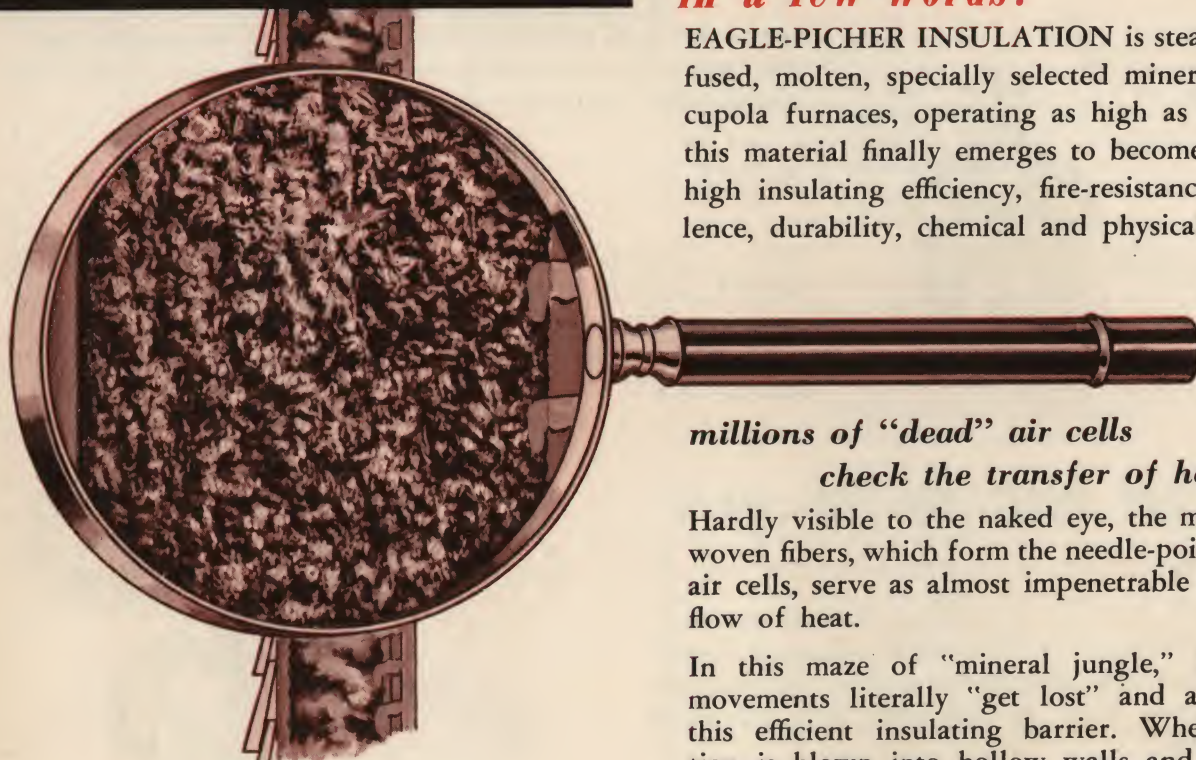
Issued to you when your job is completed, this signed Certificate is your assurance that genuine EAGLE-PICHER MINERAL WOOL INSULATION has been expertly installed in accordance with the manufacturer's specifications.



it means that you gain maximum

- year 'round comfort
- fuel savings every year
- lasting satisfaction

*a good insulation job
begins with
good materials...*



Nature provides the minerals of which this highly efficient EAGLE-PICHER MINERAL WOOL INSULATION is composed. Then, this century-old Company processes the minerals to provide a material of unexcelled thermal effectiveness to insulate your home against the passage of heat.

in a few words:

EAGLE-PICHER INSULATION is steam-blown from fused, molten, specially selected minerals. It is from cupola furnaces, operating as high as 3000° F., that this material finally emerges to become a product of high insulating efficiency, fire-resistance, water-repellence, durability, chemical and physical stability.

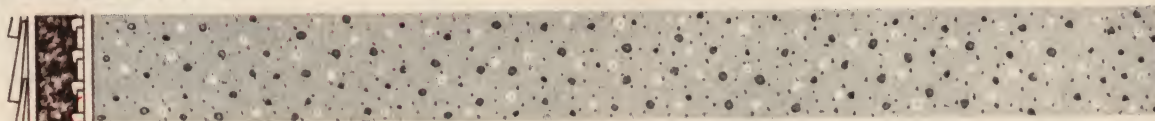
millions of "dead" air cells

check the transfer of heat and cold

Hardly visible to the naked eye, the myriad of interwoven fibers, which form the needle-point sized "dead" air cells, serve as almost impenetrable barriers to the flow of heat.

In this maze of "mineral jungle," heat and cold movements literally "get lost" and are stopped by this efficient insulating barrier. When this insulation is blown into hollow walls and between floor joists in the attic, your house is "wrapped up in a woolly blanket" that makes it virtually impervious to heat and cold.

just how effective?...



Wall thick (3 5/8 inches) EAGLE-PICHER INSULATION has thermal resistance of 12 feet of concrete!

this chart... shows the comparative insulating values of various building materials as used in common types of construction. The efficiency of EAGLE-PICHER MINERAL WOOL INSULATION is truly amazing.

COMPARATIVE INSULATING VALUES	
THICKNESS	
3 5/8"	Eagle-Picher Home Insulation.
1/2"	Insulating Wallboard
6 1/2"	Frame Wall (3/4" drop siding, paper, 1" wood sheathing, studs, 1" lath and plaster.)
8"	Brick-Veneer Wall (4" brick, wood sheathing, studs, lath and plaster.)
8"	Solid Brick Wall (No finish.)
6"	Stucco Wall (1" stucco, wood sheathing, studs, interior finish.)

*make these simple
home tests yourself...*



take an ordinary electric light bulb

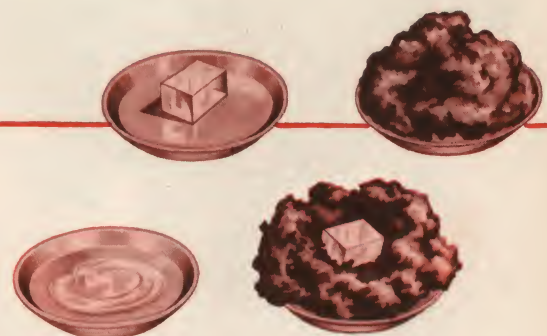
Turn it on long enough for bulb to become thoroughly hot—until you can't comfortably touch it. (By the way, there's that "conduction" business again.)

now...

Take a generous sample of EAGLE-PICHER MINERAL WOOL and cup it in your hands. Press the wool against the bulb, and wait for the heat to come through... until you get tired of waiting! (Note: the heat won't penetrate; but it's fun to try.)

try this one with two ice cubes...

Put an ice cube in a saucer, exposed to room temperature. Wrap the other cube in your mineral wool sample. When the exposed cube has completely melted, unwrap the other one... (but don't be surprised; the insulation works every time!)



or this one with two pans of water on a stove...



Fill two pans with an equal amount of cold water. Light two burners to equal intensity; put one pan directly on one burner. Pad an inch or two of your wool sample and spread it over flame (it can't burn) and place second pan on the wool pad. When water in first pan boils, water in second pan, protected by wool sample, will be barely lukewarm.

Look on the next page and see how these simple demonstrations are translated into terms of actual results in your home

apply these figures to your own home . . .

These figures, based on typical two story houses, represent the relative heat loss through the ceiling and sidewalls of an uninsulated house. With a heat loss through the insulatable areas equal to 55.1% of the total heat loss, an EAGLE-PICHER Certified INSULATION JOB saves approximately 75% of this loss or a total savings of 41.3%. Moreover, with this remarkable heat savings, interior wall surface temperatures more closely approach room air temperatures.



The figures at right are from tests of inside wall surface temperatures in typical houses—two of each type of construction. Of each type, one is *uninsulated*, the other *insulated*.

In each instance, the inside *room temperature* was maintained at 70°F. Note that in each case, due to the higher temperature of the *inside wall surfaces*, the comfort of the insulated house is much greater than that of an uninsulated house, even when the former is exposed to much lower outside temperatures.

frame construction

Wood Siding (Clapboard or Shingle) and wood sheathing, wood lath and plaster.

outside temperature	inside wall surface temperature	
	insulated	uninsulated
60° F	69 1/2° F	68 1/2° F
50	69	67
40	69	65 1/2
30	68 1/2	63
20	68	62
10	67 1/2	61
0	67	59
-10	66 1/2	58

Note that even at 0° outside, inside wall surface temperature of 67° in the INSULATED house is the same as that in the uninsulated house at 50° outside temperature.

stucco construction

Stucco and wood sheathing, wood lath and plaster.

outside temperature	inside wall surface temperature	
	insulated	uninsulated
60° F	69 1/2° F	68° F
50	69	66 1/2
40	68 1/2	64 1/2
30	68	63
20	68	61
10	67	59
0	67	57
-10	66	55 1/2

Note that even at -10° outside, inside wall surface temperature of 66° in the INSULATED house is only 1/2° less than the uninsulated house at 50° outside temperature.

brick veneer construction

4" brick veneer and wood sheathing, wood lath and plaster.

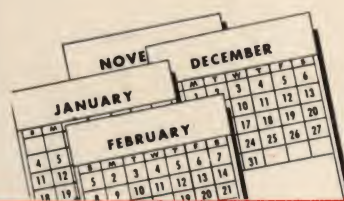
outside temperature	inside wall surface temperature	
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60° F	69 1/2° F	68 1/2° F
50	69	67
40	68 1/2	65
30	68	63 1/2
20	68	62
10	67 1/2	60
0	67	58 1/2
-10	66 1/2	57

Note that even at 0° outside, inside wall surface temperature of 67° in the INSULATED house is the same as that in the uninsulated house at 50° outside temperature.

you gain

these benefits

season • by • season . . .



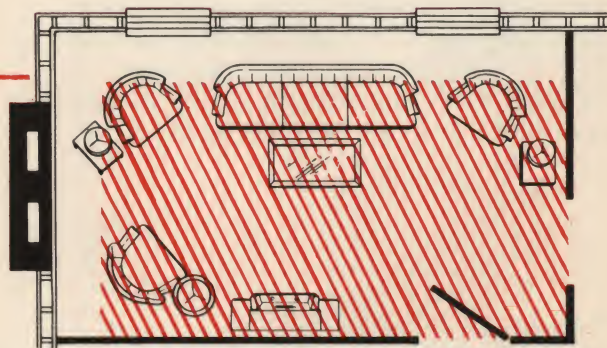
it's winter . . . and outside temperature hovers in the lower degrees. Your heating system is called upon to provide and maintain inside warmth to a comfortable degree . . . say 70°. In an uninsulated house, the furnace must be "forced" and over-worked to replenish the heat that is continuously leaking out through uninsulated walls and attic.

take your own house
. . . any room in it



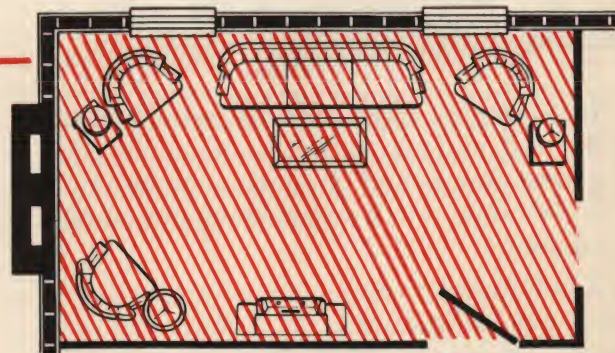
uninsulated . . .

The center of the room may be comfortably warm, but the furnace heat is circulating toward the cold wall surfaces and, as it flows, becomes progressively lower in temperature. The chilled, unusable area, shown as white space in adjoining sketch, extends into the room, which becomes cold and uncomfortable, possibly creating a health hazard.



insulated . . .

Elimination of the chilled area and expansion of the warmth to outside walls, gives you full room-size comfort that makes every part of the room livable . . . free from drafts caused by uneven temperatures. Wall thick (3 $\frac{5}{8}$ ") insulation sets up the barrier that retards heat leaks through walls and attic.



this one-room survey applies to your entire house . . . room-by-room . . .

You can readily appreciate that the total loss of expensive heat means sacrifice of comfort in *all* the exposed rooms that are not protected with insulation.

insulation keeps heat in with fuel savings up to 40%



comes summer...

you need not dread the heat

During the frequent, prolonged "heat waves" of summer, and even during spring and early autumn in the South an uninsulated house becomes so thoroughly "saturated" with heat that several days of cooler weather are required to restore livable temperatures and endurable comfort... to revive jaded nerves.

Authoritative reports reveal that 67% of heat stroke causes occur within the home. But, in an INSULATED house, this withering heat is shut out by the heat-retarding barrier of insulation.



insulation keeps summer heat out

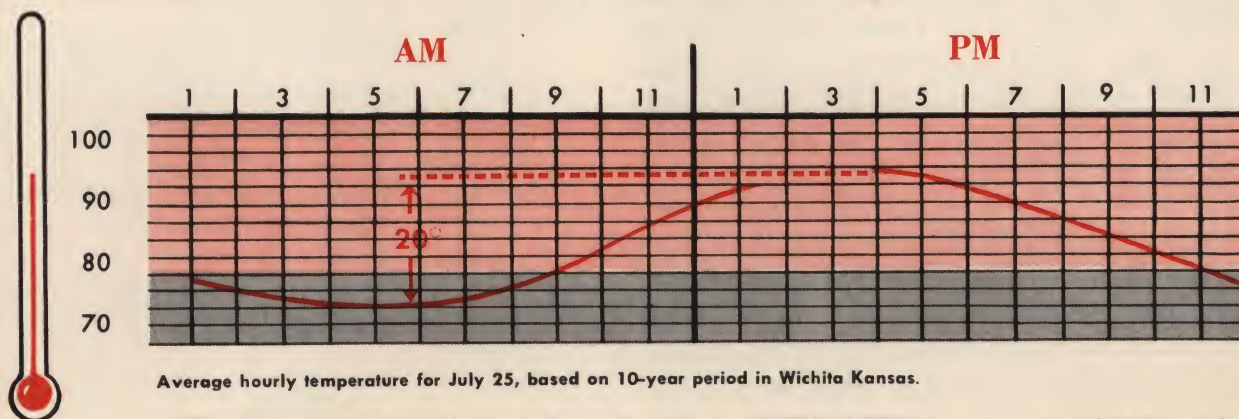
Your rooms can be up to 15° cooler than hot, outside temperatures. The sun's rays may beat down relentlessly, but you are protected by the insulation. Cooler, more comfortable temperatures can be maintained in the house... day and night.

WHEREVER YOU LIVE

BOSTON • DETROIT • MINNEAPOLIS • CHICAGO
• SEATTLE • LOS ANGELES • DENVER • DALLAS •
NEW ORLEANS • ATLANTA • MIAMI • NEW YORK

summer-long comfort... every summer

It probably gets good-and-hot in your town, too! But for impartial purposes, consider this chart of the 24-hour temperature range (the daily average over several years) in Wichita, Kansas, not far from the geographical center of the nation. In general pattern, the range is typical of many other areas where excessive heat prevails during summer months.



The temperature graph above shows how, in an INSULATED house, cool night air can be "captured" through opened windows and retained within the house during the following day by closing all windows and drawing shades on the sunny side of the house. This is much the same as retaining the cold temperature inside your refrigerator. It, too, is protected by insulation from warmer outside temperatures.

*there are
still more
advantages...*

EAGLE-PICHER mineral wool...

performs valuable functions *in addition* to its primary purpose of protection against heat and cold. Extremely important among these additional functions is its ability to resist fire, up to temperatures seldom reached in home fires. Your house may be constructed of the most modern materials and design, but fire spreads rapidly and the most finely built home can be quickly destroyed.

fire is a killer...

The National Fire Protection Association states that "...every three minutes a home catches on fire." More than 10,000 persons are fatally burned annually! Property losses are appalling, too...zooming upwards to \$580,000,000 a year, and are now reported to be increasing at the average rate of 23.7% fire loss per month, over the preceding year.

the heating season is doubly dangerous...

Fire hazards are present even in normal operation of your heating plant. If your house is un-insulated and cold, the furnace is frequently "forced" to provide warmth, with resultant increased danger of fire from over-heated pipes and flues. An Eagle-Picher insulated house greatly reduces this strain on the heating plant!

with an EAGLE-PICHER Certified INSULATION JOB, you enjoy "FIRE PREVENTION WEEK" 52 weeks a year... every year



fires from known causes...

(Unreported fires, and fires of unknown cause, are not included)
January, 1935 to January, 1945.

Number of Claims	Cause	Property Loss Value
1,005,576	Matches—Smoking	\$ 190,134,426
351,152	Misuse of Electricity	110,753,157
264,320	Exposure (Fire originating off premises)	148,094,937
237,930	Overheating or defective chimneys, flues	102,001,008
232,063	Lightning	55,947,114
213,798	Stoves, Furnaces, Boilers and their Pipes	103,814,725
212,773	Sparks on roof	59,985,360
202,179	Petroleum and its Products	86,619,810
143,641	Hot Ashes and Coals—Open Fires	25,490,914
190,388	Open Lights	25,871,615
102,799	Ignition of Hot Grease, etc.	19,794,174
60,474	Spontaneous Combustion	92,091,667
48,543	Gas—Natural and Artificial	16,873,022
33,359	Sparks from Combustion	27,435,097
29,721	Rubbish and Litter	9,474,200
26,142	Cause Known But Not Classified	21,444,167
25,895	Explosions	27,833,941
24,902	Friction—Sparks From Machinery	31,817,381
10,395	Fireworks, Balloons, etc.	1,740,102
3,416,050		\$1,157,216,817

typical annual increase
in fire losses over
ten-year period
(in millions of dollars)





*when a fire starts...
it's the first few minutes that count*

The structural design of most homes, together with highly inflammable contents, make residential fires difficult to bring under control. Much damage to costly property and treasured possessions can be done before the fire-fighters arrive; it's the first few minutes that count!

Flames, fanned by drafts through openings and chimney-like, uninsulated hollow walls, spread rapidly, feeding on combustible materials like wood lath, building dust and cobwebs, until they generate an all-consuming fire.

just how fireproof is your home?

Absolutely fireproof construction of homes is practically non-existent. So-called "fire-stops" are usually combustible wood and, therefore, ineffective. Just how fireproof is your home?



*fireproof insulation
is fire protection for your home*



Wall thick ($3\frac{5}{8}$ "") insulation is blown into, and completely fills, the hollow spaces between wall studs . . . between the floor joists in your attic, providing a non-combustible fire-stop throughout your entire house.

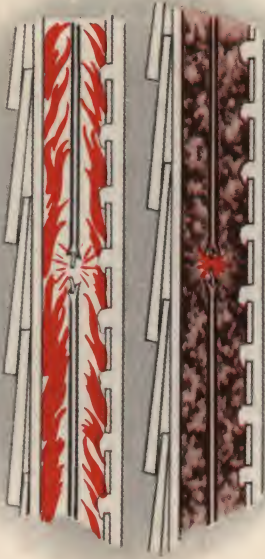
EAGLE-PICHER INSULATION is fireproof up to 1800°!

even a blowtorch



won't burn it!

EAGLE-PICHER MINERAL WOOL is as fire-proof as the minerals of which it is composed. The "stove burner demonstration" suggested on page 8 is an illustration. An even more drastic test is to apply a blowtorch to the insulation. Eagle-Picher Insulation's fire-resistance up to 1800° gives you safety-factor fire protection.



public enemy no. 2

is arrested...

Sparks from broken wires and short circuits ignite combustible materials and spread quickly to disastrous extent. Fires from this source are the second most frequent origin . . . public enemy No. 2.

Electrically non-conductive Eagle-Picher Mineral Wool Insulation fills the side walls and attic floor between joists with spark-smothering fire-stopping material.

Eagle-Picher Insulation is a non-conductor of electricity . . . non-combustible

home and lives saved by mere minutes...



"Besides bringing us renewed comforts and saving fuel, Eagle-Picher Mineral Wool saved our home from total destruction by fire . . .

"The fire started in the east portion of the attic and burned the entire roof on the house. If it hadn't been for the insulation retarding the fire until the firemen could get control, our home would have been destroyed."

Guy Trauger
Livermore, Iowa



"We had an Eagle-Picher Certified Insulation Job (installed) four months ago. This fireproof insulation saved our home. It may have saved our lives."

"Inspection of the structure since the fire reveals that dozens of boards and joists are burned to the insulation and there the fire was stopped. We saved our home and our lives by mere minutes and the fire-retarding action of Eagle-Picher Mineral Wool gave us these minutes."

Virgil Martin,
Atkins, Arkansas



EAGLE-PICHER INSULATION

has other plus factors that provide

efficiency • durability • satisfaction

1. *water-repellent*

EAGLE-PICHER INSULATION sheds water "like a duck's back." The texture of the minerals from which this material is made and the special manufacturing method by which it is fabricated, give it remarkable water repellency.

This repellency, coupled with its chemical and physical stability in the presence of water, make EAGLE-PICHER INSULATION lastingly efficient. Unaffected by moisture, this mineral wool does not disintegrate or change form, nor does it conduct electricity.

Damage to interior decorations, caused by wall or roof leaks, is minimized because of this water-repellent feature of EAGLE-PICHER INSULATION.

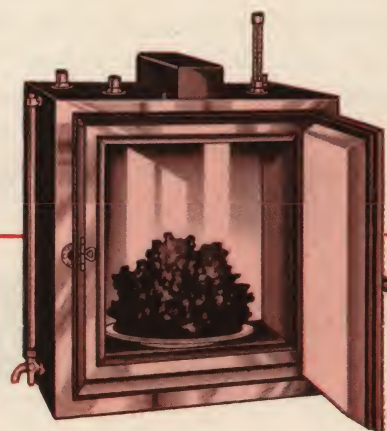


2. *light in weight*

*in a recent test
by a Pittsburgh
Testing Laboratory*

a sample of EAGLE-PICHER INSULATION was exposed in a humidity cabinet maintained at 120° F. and 95% relative humidity for 96 hours, the moisture "pick-up" of the insulation was only 0.014% by volume. The results of this test, performed in accordance with U. S. Department of Commerce Commercial Standards CS-131, show the insignificant amount of water vapor adsorbed by the insulation under humidity conditions far more severe than normally encountered in your home.

In another test, a sample of EAGLE-PICHER INSULATION was submerged in water to a depth of one inch for two hours, in accordance with Test Procedure C-209 of the American Society for Testing Materials. The water absorption of the insulation under these test conditions was only 0.6% by volume, clearly indicating its remarkable water repellency.

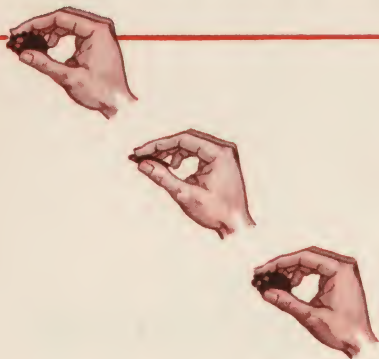


The soft, fluffy texture of EAGLE-PICHER INSULATION indicates the myriad of "dead" air cells which create its heat stopping ability and enable performance of its insulating function without strain to structural members of the house.

A bushel basketfull weighs only about five pounds!

3.

is resilient ... springy



Note how a pellet of this insulation, when pressed between your fingers, instantly tends to spring back to its original shape. This resiliency is the important characteristic that prevents the material from packing down or settling. Blown into your hollow walls, EAGLE-PICHER INSULATION "stays put" and completely fills the areas—for as long as the house stands.

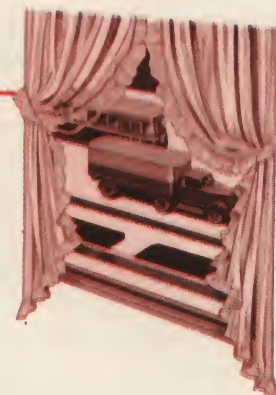
A severe test, on a specially designed "bouncing machine," raised and dropped a typical insulation-filled wall section 27,840 times. Despite this punishing treatment, the settling of the material was calibrated at only 14/1000ths of original volume! To the home owner, this means freedom from large voids where heat could escape.



4.

soundproofing properties

Drum-like hollow walls transmit the vibrating rumble of traffic and other outside noises. EAGLE-PICHER INSULATION, while primarily not an acoustical material, does act as a sound-deadener ... it is comparable to many materials manufactured specifically for acoustical purposes.



5.

lasting efficiency



EAGLE-PICHER INSULATION retains its efficiency as long as the house stands. Its stability is practically endless. Being composed of inorganic material, it doesn't attract vermin or rodents because it offers nothing edible; nor is it affected by years of changing climatic conditions. Once installed, it serves you for a "housetime" ... truly, it is as permanent as the minerals from which it is made!

These characteristics of EAGLE-PICHER INSULATION make for long-lasting benefits. The first cost is the last ... it is as durable as the house itself.

a one-time investment for a "life-time" home improvement

A "good investment" must (a) conserve the principal invested, (b) earn a fair return, (c) be readily marketable.

By these accepted standards, an EAGLE-PICHER Certified INSULATION JOB is a good investment in every respect.

Your investment is in a tangible improvement that increases the value of your property . . . pays large "dividends" in comfort and fuel savings year after year . . . tremendously enhances the salability of your property.

what other home investment gives you all these values?

- ✓ no upkeep, first cost is the last cost
- ✓ serves as basis for all home modernization
- ✓ pays for itself with substantial fuel savings
- ✓ pays "dividends" of comfort year after year

they look alike



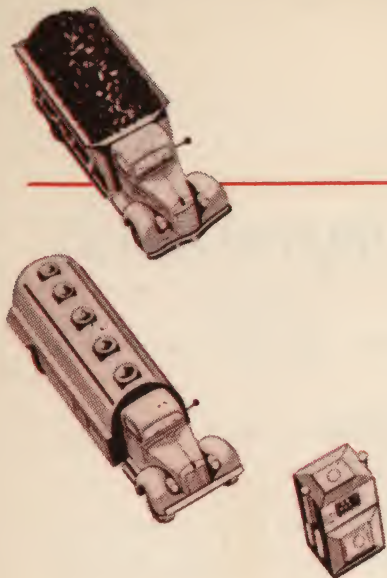
but . . . which house would you buy?

*live in this insulated house
and you gain these benefits*

- Warmer in winter
- Up to 40% fuel savings
- Maximum fire protection
- As much as 15°F cooler in summer
- Greater return on your investment
- More healthful living conditions
- Less furnace drudgery
- Every room usable
- Cleaner, quieter

*live in this uninsulated house
and you put up with these faults*

- Cold, drafty rooms in winter
- High fuel bills
- Greater fire hazard
- Hot, sleepless nights in summer
- Nerve-jarring outside noises
- More risk of sickness
- More dust and dirt
- Loss of comfortable living space
- Frequent redecorating costs

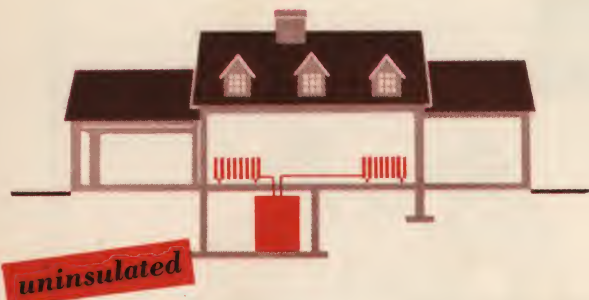


it costs you lots of money to be uncomfortable . . .

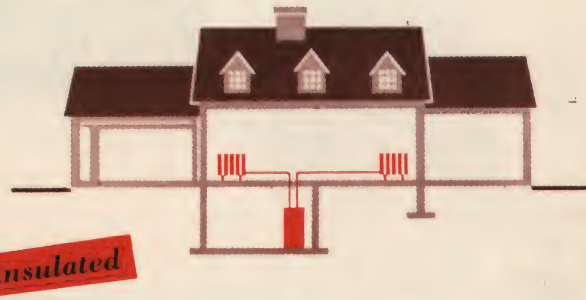
In *tons*, *gallons*, or through a *meter*, house heating fuel is expensive. When you try to heat an uninsulated house, regardless of what heating system you have, about $\frac{1}{3}$ of every ton of coal or coke . . . $\frac{1}{3}$ of every gallon of oil . . . $\frac{1}{3}$ of every cubic foot of gas is wasted. This is a sheer, needless waste that costs you dollars and dollars every year in an uninsulated house.

consider the job your heating plant must do . . .

It is generally accepted that inside temperature of 70° is the minimum for comfort. And practically all heating systems are engineered to maintain that temperature under **NORMAL** operation. However, heat loss in an uninsulated house requires furnace operation *in excess* of normal . . . means "forcing" the furnace.



To maintain comfortable warmth, furnace must be "forced" with frequent firing and excessive fuel consumption. Fuel cost is equivalent to "firing" a furnace considerably larger than size of house requires.



Furnace heat is held **IN** so that heating system, engineered for size of house, can be operated normally with correspondingly low fuel consumption; yet house temperature is easily maintained at comfortable 70° F.

what price discomfort?



Naturally, you want livable, comfortable warmth in your home . . . comfort that literally "lives" with you . . . but you also want it without paying a premium for it!

Since so many variables enter into consideration, it may be impossible to tabulate exact fuel savings. But, based on known insulation efficiency, it is possible to arrive at a reasonably accurate estimate of the fuel savings you can expect. Study the diagrams on the opposite page; apply them to your house! See how much it is costing you to be uncomfortable!

in terms of dollars and "sense"...

the more comfort you have, the more money you save

These diagrams, based on information compiled and published by the National Mineral Wool Association, and supported by a board of unbiased insulation experts, prove conclusively that in YOUR home, *the more comfort you have the more money you save.*

It's interesting to note the parallel increase shown by the red and black bars on each chart. As the *Comfort Rating* increases in your home by the addition of fire-proof Eagle-Picher Home Insulation, the *Resistance To Heat Flow* proportionately increases, and that means a fuel savings representing a generous portion of YOUR TOTAL FUEL BILL. Note too, the dollar savings per hundred square feet, shown in red figures on the right side of each chart.

Let's take a typical midwestern home—five rooms and bath, one floor plan, wood frame, wood siding, and heated with an oil furnace:



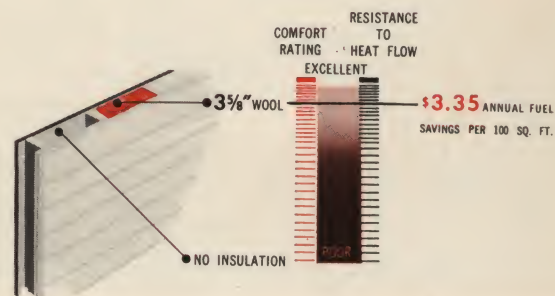
DATA:

Attic Area.....1,000 Sq. Ft.
Side Wall Area.....1,200 Sq. Ft.
Fuel Oil Cost.....14c Per Gal.
Furnace Efficiency.....70%
Attic—not ventilated and without flooring.
Climate—similar to Chicago, Ill.

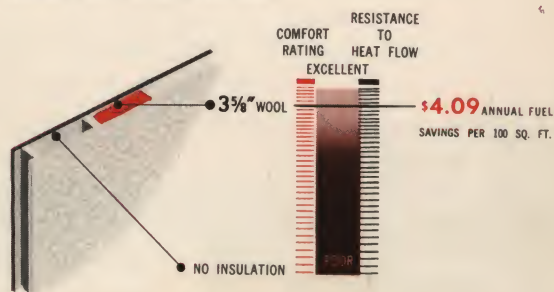
Now let's assume an arbitrary set of conditions—maintaining a 70° indoor temperature, and with the basement unexcavated and having the same cold-side temperature as the exposed walls.

Wall-thick Eagle-Picher Home Insulation, pneumatically blown in the hollow sidewalls of this house by trained experts, will save approximately \$3.35 per 100 square feet, or a total of \$40.20 annually. After installing the proper ventilation in the attic, water-repellent Eagle-Picher Home Insulation, blown over the entire attic area to the proper thickness recommended by Eagle-Picher's rigid specifications, will save approximately \$5.75 per 100 square feet or \$57.50 annually.

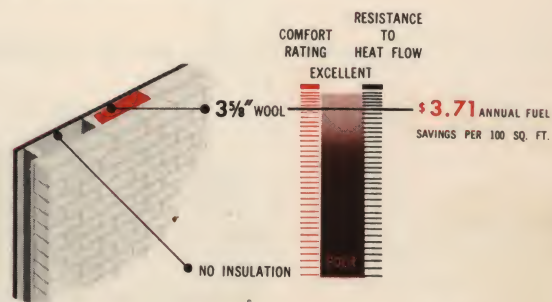
So... the total annual fuel savings on this typical midwestern home would be approximately \$97.70. Isn't that a savings worth depositing in your bank account every year? Current fuel costs vary, of course, but the relationship of these figures will remain comparable for any house, anywhere, burning any kind of fuel. The Eagle-Picher contractor in your community will gladly supply you with an estimate of the fuel savings a Certified Insulation Job will bring you. This estimate is based on the exclusive Eagle-Picher Thriftolator.



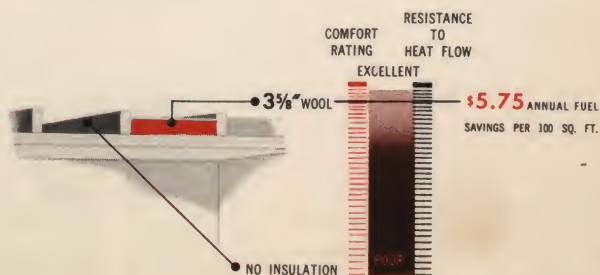
FRAME CONSTRUCTION — Wood Siding (Clap-board) and Wood Sheathing



STUCCO CONSTRUCTION — Frame Walls, Stucco on Wood Sheathing



BRICK VENEER CONSTRUCTION—Frame Walls, 4 inches of Brick Veneer on Wood Sheathing



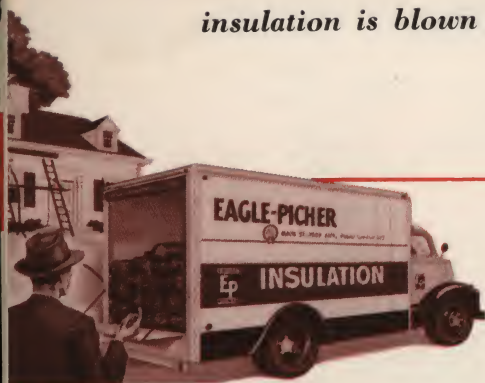
PLASTERED CEILING — Ventilated attic without Flooring Above.

installation of an **EAGLE-PICHER Certified** . . . *is simple • thorough • fast* **INSULATION JOB**

The "mechanics" of insulating houses have been reduced to a minimum of time and a simplified procedure. The method has been so perfected that thorough insulation and adequate ventilation are completed easily and quickly without disruption to your daily routine or inconvenience to your household.

insulation is blown in . . . pneumatically without muss or fuss . . . in new homes or old

... a truck load of home comfort



Soft, fluffy EAGLE-PICHER MINERAL WOOL is fed into the hopper of a blowing machine in the truck. From there it is blown, under air pressure through the hose to where experienced craftsmen guide the mineral wool into walls and attic areas to form a barrier of insulation. Where necessary, louvers for ventilation are provided.

quickly and expertly installed . . . without alterations to your house

attic floors and roof areas

are carefully insulated to uniform, even density by the efficient pneumatic method, insuring maximum benefits.



clapboard or shingle houses

insulated by experts, are unchanged in appearance and give occupants a new type of comfort and economy.



brick or stone veneer

homes boast a new kind of comfort after insulation is pneumatically blown in all sidewall and attic ceiling areas.



stucco homes

too, require insulation for maximum comfort. Hose openings are sealed so that scarcely a visible trace remains.





when the job is completed . . .

and every nook and cranny of your house has been checked and re-checked to insure that all requirements have been fulfilled, then, and only then does the job comply with the rigid engineering specifications established by the manufacturer — Eagle-Picher. At that time, this Certified Insulation Job Certificate is issued to you.

this certificate

- . . . is your assurance of a good job well done.
- . . . is proof that the full requirements of an EAGLE-PICHER Certified INSULATION JOB have been satisfactorily completed.
- . . . means *EXACTLY WHAT IT SAYS*:

NOT HALF . . .
NOT TWO-THIRDS . . .
COMPLETELY INSULATED

ENGINEERED
SPECIFICATIONS
BASED ON THERMAL
SURVEY

EFFICIENT
PERMANENT
MADE FROM
MINERALS

NECESSARY
VENTILATION

ADEQUATE THICKNESS
OF MINERAL WOOL

FULL WALL
THICKNESS

SUPERIOR
CRAFTSMANSHIP
TRAINED, EXPERIENCED
APPLICATION CREWS

MADE BY
EAGLE-PICHER . . .
IN BUSINESS
SINCE 1843

FUEL SAVINGS
. . . SOON PAYS FOR
ITSELF

SUBJECT TO
MANUFACTURER'S
SPOT CHECKING

all this adds up to

*the finest job of insulating
your house that money can buy!*

satisfied owners by the tens of thousands

from coast-to-coast . . .



North—East—South—West over the length and breadth of the nation, EAGLE-PICHER INSULATION has brought year 'round comfort to homes of every style and construction, probably several in your own neighborhood...added value to large homes and small...reduced owner's fuel costs as much as 40%...gave them an entirely new conception of what comfort really means.



a few prominent persons whose homes are Eagle-Picher Insulated . . .

Mr. Vincent Astor.....Capitalist
Mr. Bruce Barton.....Former Congressman, Author
Hon. Styles Bridges.....U. S. Senator
Miss Virginia Bruce.....Actress
Admiral Richard E. Byrd*.....Explorer and Scientist
Mr. Stuart Chase.....Author, Economist
Mr. Mario Chamlee.....Opera Singer
Mr. Wheeler T. Dewart.....President, New York Sun
Mr. Melvyn Douglas.....Actor
Mr. E. I. DuPont.....Capitalist
Mr. James E. Fraser.....Sculptor
Mr. Paul Gallico.....Author, Columnist
Miss Judy Garland.....Actress
Mr. Walter Sherman Gifford.....President, AT&T
Mr. Norris Goff.....(Lum) Lum and Abner
Mr. Harry F. Guggenheim.....Diplomat
Maj. Gen. James G. Harbord.....Chairman, R. C. A.
Sir Yeshwant Rao Holkar.....Maharajah of Indore

Mr. Arthur Lehman.....Banker
Miss Helen Hayes MacArthur.....Actress
Mr. Fred MacMurray.....Actor
Mr. Zeppo Marx.....Actor
Mr. Robert Montgomery.....Actor
Mr. Frank Munn.....Radio Star
Mr. George W. Perkins.....Financier
Mr. Cole Porter.....Actor, Song Writer, Playwright
Mrs. Franklin D. Roosevelt.....Author, Columnist
Dr. Charles Seymour.....Educator
Mr. William Shirer.....Newsmen, Author
Mr. A. William Sperry.....Inventor
Colonel Henry L. Stimson.....Former Secretary of War
Mr. Edward Swift.....Swift Packing Co.
Miss Shirley Temple.....Actress
Mr. Lowell Thomas.....Radio Commentator
Mr. William Vanderbilt.....Capitalist

*Prefabricated homes used by Admiral Byrd on his 1940 Antarctic Expedition were Eagle-Picher Insulated.



a few of the thousands of non-residential buildings which Eagle-Picher Insulated . . .

Arrowhead Springs Hotel.....San Bernardino, Calif.
Automobile Club of Southern Calif...Beverly Hills, Calif.
Chimney Corners Restaurant...Croton-On-Hudson, N. Y.
Droll's English Inn.....Wichita, Kans.
Duke University.....Durham, N. C.
Fordham University.....New York, N. Y.
Greenleaf Ranch.....Murdock, Kans.
Gulf Coast Kennel Club.....Biloxi, Miss.
Harvard-Yale-Princeton Club.....Pittsburgh, Pa.
Indiana University.....Bloomington, Ind.
Jewish Hospital.....Cincinnati, Ohio
Larchmont Shore Club.....Larchmont, N. Y.

Methodist Hospital.....Indianapolis, Ind.
Ox Ridge Hunt Club.....Darien, Conn.
Piccadilly Inn.....Atlanta, Ga.
Rutgers University.....New Brunswick, N. J.
State Industrial Farm for Women.....Goochland, Va.
The Last Frontier Hotel.....Las Vegas, Nevada
University of Michigan.....Ann Arbor, Mich.
University of Nebraska.....Lincoln, Nebr.
University of Nevada.....Reno, Nevada
University of North Carolina.....Chapel Hill, N. C.
Vassar College.....Poughkeepsie, N. Y.
Yale University.....New Haven, Conn.

Remember, an EAGLE-PICHER Certified INSULATION JOB is not expensive . . . it actually pays for itself in fuel savings. Many hundreds of thousands of owners enjoy year 'round comfort and economy from their profitable investment in insulating their homes. Ask your Eagle-Picher contractor for a list of local home owners whose houses are Eagle-Picher insulated.

EAGLE-PICHER INSULATION

is backed by more than

a century of leadership in industry



In business since 1843, century-old EAGLE-PICHER manufactures more than 200 products used in industry and home improvement. As a pioneer in the insulation industry, it has engaged in continuous research and experimentation to make EAGLE-PICHER INSULATION unsurpassed for fireproofness, water-repellence, resiliency, durability and all 'round efficiency. Not content to rest on past accomplishments and present leadership, EAGLE-PICHER is constantly testing its products for quality, searching for further improvement, for greater comforts and economies for home owners. Our more-than-a-century of manufacturing experience provides a solid foundation for the sustained progress which today characterizes EAGLE-PICHER'S vast operations from raw materials to finished products.



EAGLE-PICHER operations include

59 mines located in Arizona, Kansas, Mexico, Missouri, Nevada, Oklahoma and Wisconsin.

28 plants in 23 cities located at Argo, Ill.; Atlanta, Ga.; Cincinnati, Ohio; Clark, Nev.; Commerce, Okla.; Dallas, Texas.; Dover, N. J.; East Chicago, Ind.; East St. Louis, Ill.; Galena, Kan.; Henryetta, Okla.; Hillsboro, Ill.; Housatonic, Mass.; Joplin, Mo.; Kansas City, Mo.; Lyons, Ill.; Maplewood, N. J.; Montreal, Que.; Newark, N. J.; Oklahoma City, Okla.; Seattle, Wash.; Tuscon, Ariz.; Wabash, Ind.

General Office American Building, Cincinnati 1, Ohio

*our free survey
of your home
is yours for the asking*

As the authorized EAGLE-PICHER INSULATION contractor in this area, an EAGLE-PICHER Certified INSULATION JOB is *available only through us.*

Advantageously to you, this centers full responsibility for the satisfactory completion of all phases of the insulation job—in our company . . . *under one contract and with one crew.*

let us make it now. . .

You owe it to yourself to learn how inexpensively you can gain the year 'round benefits of an EAGLE-PICHER Certified INSULATION JOB—the home improvement that pays for itself in fuel savings, that brings a new kind of comfort to your home year after year after year.

We will gladly make this engineering survey of your house and submit our detailed recommendations and cost estimate. There is no obligation.

you have up to 36 months to pay. . .

An EAGLE-PICHER Certified INSULATION JOB can be purchased on an easy-to-pay Budget Plan with cost spread over as long as 36 months. Your fuel savings will help pay the small monthly payments.

No down payment is necessary for an

EAGLE-PICHER Certified INSULATION JOB

Phone us today for your free survey

SHAUL MANUFACTURING CO.

39 S. Spanish Street

Cape Girardeau, Mo.

Phone 848

*our free survey
of your home
is yours for the asking*

As the authorized E
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PICHER Certified IN
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as long as 36 months.

Your fuel savings will help pay the small monthly payments.

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